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From:	Timothy E. Nauman, Reg. No. 32,283 Matthew P. Dugan, Reg. No. 44,663	
Re:	Serial No. 10/714,790, filed November 14, 2003 Our Ref.: LD 11411-2 GECZ 2 00489-1	

COMMENTS

Attached is an Appeal Brief

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

INVENTOR(S) : Laurence Bigio, et al.
TITLE : IR-COATED HALOGEN LAMP USING
REFLECTIVE END COATS
APPLICATION NO. : 10/714,790
FILED : November 14, 2003
CONFIRMATION NO. : 2976
EXAMINER : Sikha Roy
ART UNIT : 2879
LAST OFFICE ACTION : February 24, 2005
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TRANSMITTAL OF
APPEAL BRIEF UNDER 37 C.F.R. §1.192

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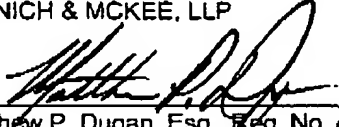
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Respectfully submitted,

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Date: June 20, 2005


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PATENT APPLICATION

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re the Application of

Laurence Bigio, et al.

Application No.: 10/714,790

Examiner: Sikha Roy

Filed: November 14, 2003

Docket No.: LD 11411-2
GEC 2 0489-1

For: IR-COATED HALOGEN LAMP USING REFLECTIVE END COATS

BRIEF ON APPEAL

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Appeal from Group 2879

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Application No. 10/714,790

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I. REAL PARTY IN INTEREST

The real party in interest for this appeal and the present application is General Electric Company, by way of an Assignment recorded in the U.S. Patent and Trademark Office at Reel 011092, Frame 0394.

II. STATEMENT OF RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences or judicial proceedings, known to Appellant, Appellant's representative, or the Assignee, that may be related to, or which will directly affect or be directly affected by or have a bearing upon the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-4, 7-10, 12, 13, 16, 20 and 21 are pending in the application and currently stand rejected.

Claims 1-4, 7-10, 12, 13, 16, 20 and 21 are on appeal.

IV. STATUS OF AMENDMENTS

An Amendment After Final Rejection was filed on January 19, 2005. By an Advisory Action dated February 24, 2005, it was indicated that the requested amendments were not entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1 is directed to a light source (discussed beginning on page 3, line 19 as item number **100** shown in FIGURES 1, 2 and 5) that includes a lamp envelope **102** made of a light transmissive material. The lamp envelope includes an ellipsoidal portion (page 3, line 20) that is centrally disposed between tubular portions (page 3, line 20-21) disposed on opposite ends of the of the ellipsoidal portion. A filament **104** is centrally disposed within the envelope. An infrared reflective filter coating **118** is disposed on at

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least a portion of lamp envelope **102** in surrounding relation to filament **104**. The infrared reflective filter coating has alternate layers (page 4, line 25) of respective high and low refractive indices (page 4, line 25) for selectively passing desired radiation therethrough and reflecting unwanted radiation to the filament. Means for eliminating infrared loss at wide angle bulb positions includes a totally reflecting coating **120** disposed on opposite ends of envelope **102** in surrounding relation to filament **104**. Totally reflecting coating **120** subtends an angle (page 5, line 3) of approximately 45° and less measured from an axis aligned with the filament for reflecting radiation that would otherwise pass through the infrared reflective filter coating and increasing the efficiency of light source **100** during continuous operation.

Claim 10 is directed to a light source **100** that includes a lamp envelope **102** made of a light transmissive material having an ellipsoidal portion (page 3, line 20). A filament **104** is disposed within the envelope. An infrared reflective filter coating **118** is disposed on at least a portion of the lamp envelope in surrounding relation to filament **104**. Infrared reflective filter coating **118** has alternate layers (page 4, line 25) of respective high and low refractive indices (page 4, line 26) for selectively passing desired radiation therethrough and reflecting unwanted radiation to filament **104**. Means for eliminating infrared loss at wide angle bulb positions includes a totally reflecting coating **120** disposed on opposite ends of envelope **102** in surrounding relation to filament **104** formed of one of a silver and aluminum coating (page 5, line 11) to direct radiation toward the filament. Totally reflecting coating **120** subtending an angle (page 5, line 3) of approximately 22° to 45° from an axis aligned with filament **104** for reflecting radiation that would otherwise pass through the infrared reflective filter coating and increasing the efficiency of light source **100**.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The following grounds of rejection are presented for review:

ISSUE 1. Whether **Claim 1 and its dependent claims 2, 3, 7-9 and 21, and claim 10 and its dependent claims 12, 16 and 20** are properly rejected as being obvious under 35 U.S.C. §103(a) over US Patent 5,660,462 ('462) to Bockley, et al. in view of US Patent 5,506,471 ('471) to Kosmatka et al., and in further view of US Patent 5,017,839 ('839) to Arlt et al.

ISSUE 2. Whether **Claims 4 and 13** are properly rejected as being obvious under 35 U.S.C. §103(a) over US Patent 5,660,462 ('462) to Bockley, et al., US Patent 5,506,471 ('471) to Kosmatka et al. and US Patent 5,017,839 ('839) to Arlt et al., and further in view of US Patent 4,375,605 ('605) to Fontana et al.

ISSUE 3. Whether **Claims 1 and 10** are in proper form to be interpreted under 35 U.S.C. §112, sixth paragraph.

VII. ARGUMENTS**A. ISSUE 1:**

Claim 1 and its dependent claims 2, 3, 7-9 and 21 as well as claim 10 and its dependent claims 12, 16 and 20 stand rejected under 35 U.S.C. §103(a) over the '462 patent to Bockley, et al. in view of the '471 patent to Kosmatka et al. and in further view of the '839 patent to Arlt et al.

No motivation or suggestion has been shown to modify or combine references.

The Examiner recognizes that Bockley only provides a reflective coating 222 on one end of the double ended lamp. It must be appreciated that the reason for such a coating to reflect visible and infrared radiation is a result of the environment in which the lamp is used, namely, a headlight. Without the reflective coating, the lamp assembly encounters an issue with regard to glare. Thus, even though it is recognized that

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operating efficiency may be increased, the teachings associated with Bockley are to limit the reflective coating to one end (compare the various embodiments of Bockley, which all provide a coating on one end of the lamp only).

Applicants do not dispute the reliance on Kosmatka for teaching an interference coating having alternate layers of high and low refractive indices. However, the reliance on Arlt for coatings 7 and 8 at the end regions of the envelope is respectfully traversed. The claims of the present application require a totally reflecting coating. Such is not the case with Arlt which teaches a silicon iron oxide coating that is more akin to a white coating and is not highly reflective like the silver or aluminum of a totally reflecting coating. Moreover, in light of the express teaching in Bockley that a totally reflective coating be provided on one end only, it is respectfully submitted that one of ordinary skill in the art would not be motivated to incorporate the selected teaching of Arlt to satisfy these claim limitations. Thus, claims 1 and 10, as well as the claims dependent therefrom, each require a totally reflecting coating, and moreover require such coating be disposed on the opposite ends of the envelope. To reach the conclusion of the propriety of combining these disparate references requires the Examiner to improperly use applicant's own teachings in a hindsight manner.

The function and purpose of the reflective end coat is now brought out in greater detail in independent claims 1 and 10 by virtue of the use of means plus function claim language. None of the prior art, whether Bockley, Arlt, or Kosmatka is concerned with stopping the IR loss at wide angle bulb positions by use of a total reflective end coat. Accordingly, the absence of such a teaching in any of the documents on an individual basis necessarily leads to the conclusion that the combination of the prior art references must also fail.

Arc discharge lamps are not analogous art.

The present invention is directed to incandescent lamps having an envelope and a filament within the envelope. It is well understood that incandescent lamps operate on significantly different principles and at significantly different temperatures and wavelengths than arc discharge lamps, which rely upon an arc discharge between spaced electrodes. Thus, the operation and characteristics of arc discharge and

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incandescent lamps are not readily transferable to one another. While both types of lamp are broadly considered light sources, these two different types of lamps are not generally considered to be within the same field.

Arlt discloses a metal-halide high-pressure arc discharge lamp. Arlt is directed to decreasing startup time by using a special power supply along with doped quartz and/or reflective end coats to trap heat within the arc tube. Arlt is directed to an arrangement that reduces the startup time of the lamp. The arrangement in Arlt has no impact on steady state operation of the lamp. As such, the disclosure of Arlt is not reasonably pertinent to the specific problems in which the inventors were involved. These are completely different purposes than that of the present invention. Thus, contrary to the examiner's conclusion, it is respectfully submitted that the motivations to use the teachings of Arlt are not present nor would one of ordinary skill in the art seek to modify the teachings of Bockley with that of Arlt since they are directed to different problems.

The problems and disadvantages associated with halogen lamps are set out in detail in the present application and include infrared radiation leakage and reduced efficacy during steady state operation of lamps. As mentioned above, the lamp of Arlt was developed to have an improved or reduced startup time, as stated in column 1 beginning at line 25. The nature of the problem to be solved by Arlt, namely improved starting time of the lamp, does not provide the reason, suggestion or motivation to combine the cited references. That is, the lamp construction disclosed in Arlt was not developed to overcome problems and disadvantages such as those of the present application with regard to halogen lamps, i.e., precluding IR loss at wide angle bulb positions.

B. ISSUE 2:

Claims 4 and 13 stand rejected under 35 U.S.C. §103(a) over the '462 patent to Bockley, et al., the '471 patent to Kosmatka et al. and the '839 patent to Arlt et al., and further in view of the '605 patent to Fontana et al. Applicants do not dispute the reliance on Fontana for teaching a filament extending between first and second optical foci of an envelope. However, for at least the foregoing reasons, the cited combination of references is improper.

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C. ISSUE 3:

Claims 1 and 10 recite "means for eliminating infrared loss at wide angle bulb positions including a totally reflecting coating." The examiner has taken the position that the recited language does not fall within 35 U.S.C. §112, sixth paragraph, because in order to invoke §112, sixth paragraph the phrase "means for" must not be modified by sufficient structure, material or acts for achieving specific function. The examiner asserts that "reflecting coating" acts as modifying structure for the "means for eliminating infrared loss."

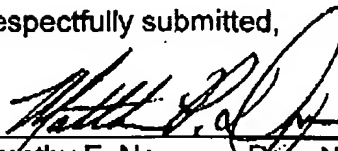
Applicant respectfully submits that the sixth paragraph of Section 112 of the Patent Statute is intended to provide an alternative manner of claiming, namely, expressing an element of a combination claim as a means or step for performing a specified function. The indication that it is "without the recital of structure, material, or acts in support thereof" does not preclude such a recitation, rather it is provided as an alternative to the typical recitation of structure, material, or acts in support thereof. It is respectfully asserted that the Examiner is improperly construing Section 112, paragraph 6.

VIII. CONCLUSION

For at least all of the reasons discussed above, it is respectfully submitted that the rejections are in error and that claims 1-4, 7-10, 12, 13, 16, 20 and 21 are in condition for allowance. For at least all of the above reasons, Appellants respectfully request this Honorable Board to reverse the rejections of claims 1-4, 7-10, 12, 13, 16, 20 and 21.

Application Serial No. 10/714,790

Respectfully submitted,



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Filed: June 20, 2005

Application Serial No. 10/714,790

CLAIMS APPENDIX

CLAIMS INVOLVED IN THE APPEAL:

1. (Currently Amended) A light source comprising:

a lamp envelope made of a light transmissive material, wherein the envelope has an ellipsoidal portion disposed centrally between tubular portions disposed on opposite ends of the ellipsoidal portion;

a filament centrally disposed within the envelope;

an infrared reflective filter coating disposed on at least a portion of the lamp envelope in surrounding relation to the filament, the infrared reflective filter coating having alternate layers of respective high and low refractive indices for selectively passing desired radiation therethrough and reflecting unwanted radiation to the filament;

means for eliminating infrared loss at wide angle bulb positions including a totally reflecting coating disposed on opposite ends of the envelope in surrounding relation to the filament, the totally reflecting coating subtending an angle of approximately 45° and less measured from an axis aligned with the filament for reflecting radiation that would otherwise pass through the infrared reflective filter coating and increasing the efficiency of the light source during continuous operation.

2. (Original) The light source of claim 1 further comprising a pair of lead wires connected to opposite ends of the filament for energizing the filament.

3. (Original) The light source of claim 1 further comprising a lead wire connected to an end of the filament and for energizing the filament.

4. (Original) The light source of claim 1 wherein the ellipsoidal portion having first and second foci associated therewith; and wherein the length of the filament fits substantially between the first and second optical foci for absorbing substantially all the radiation reflected from the infrared reflective filter and the totally reflecting coating.

5. (Canceled)

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6. (Canceled)

7. (Original) The light source of claim 1 wherein the totally reflecting coating directs radiation towards the filament.

8. (Currently Amended) The light source of claim 1 wherein the totally reflecting coating is disposed on portions of both ends of the envelope subtending an angle from approximately 22° from an axis aligned with the filament.

9. (Original) The light source of claim 1 wherein the totally reflecting coating is disposed on both ends of the envelope subtending an angle from approximately 22° to 45° from an axis aligned with the filament.

10. (Currently Amended) A light source comprising:

a lamp envelope made of a light transmissive material having an ellipsoidal portion;

a filament disposed within the envelope;

an infrared reflective filter coating disposed on at least a portion of the lamp envelope in surrounding relation to the filament, the infrared reflective filter coating having alternate layers of respective high and low refractive indices for selectively passing desired radiation therethrough and reflecting unwanted radiation to the filament;

means for eliminating infrared loss at wide angle bulb positions including a totally reflecting coating disposed on opposite ends of the envelope in surrounding relation to the filament formed of one of a silver and aluminum coating to direct radiation toward the filament, the totally reflecting coating subtending an angle of approximately 22° to 45° from an axis aligned with the filament for reflecting radiation that would otherwise pass through the infrared reflective filter coating and increasing the efficiency of the light source.

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11. (Canceled)

12. (Original) The light source of claim 10 wherein the totally reflecting coating is provided on end regions of an ellipsoidal portion of the envelope and tubular portions extending from opposite ends of the ellipsoidal portion.

13. (Original) The light source of claim 12 wherein the ellipsoidal portion has first and second foci associated therewith; and wherein the length of the filament is located substantially between the first and second optical foci for absorbing substantially all the radiation reflected from the infrared reflective filter and the totally reflecting coating.

14. (Canceled)

15. (Canceled)

16. (Original) The light source of claim 10 wherein the totally reflecting coating directs radiation towards the filament.

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Original) The light source of claim 10 further comprising a reflector receiving visible light from the light source, the totally reflecting coating matching useful reflecting areas of the reflector.

21. (New) The light source of claim 1 wherein the totally reflecting coating is provided on tubular portions extending from opposite ends of the ellipsoidal portion of the envelope.

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EVIDENCE APPENDIX

A copy of each of the following items of evidence relied on by the Appellant is attached:

NONE

B-1

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RELATED PROCEEDINGS APPENDIX

Copies of relevant decisions in the following related proceedings are attached:

NONE